

MEMORANDUM

DATE:	June 13 th , 2016
FROM:	Eric Lancaster
SUBJECT:	Weekly Progress Report @ Gold King
TO:	Kerry Guy

Project: Gold King Interim Water Treatment Plant (IWTP)

Reporting Period: June 6 – June 13

Location: Gladstone, Colorado

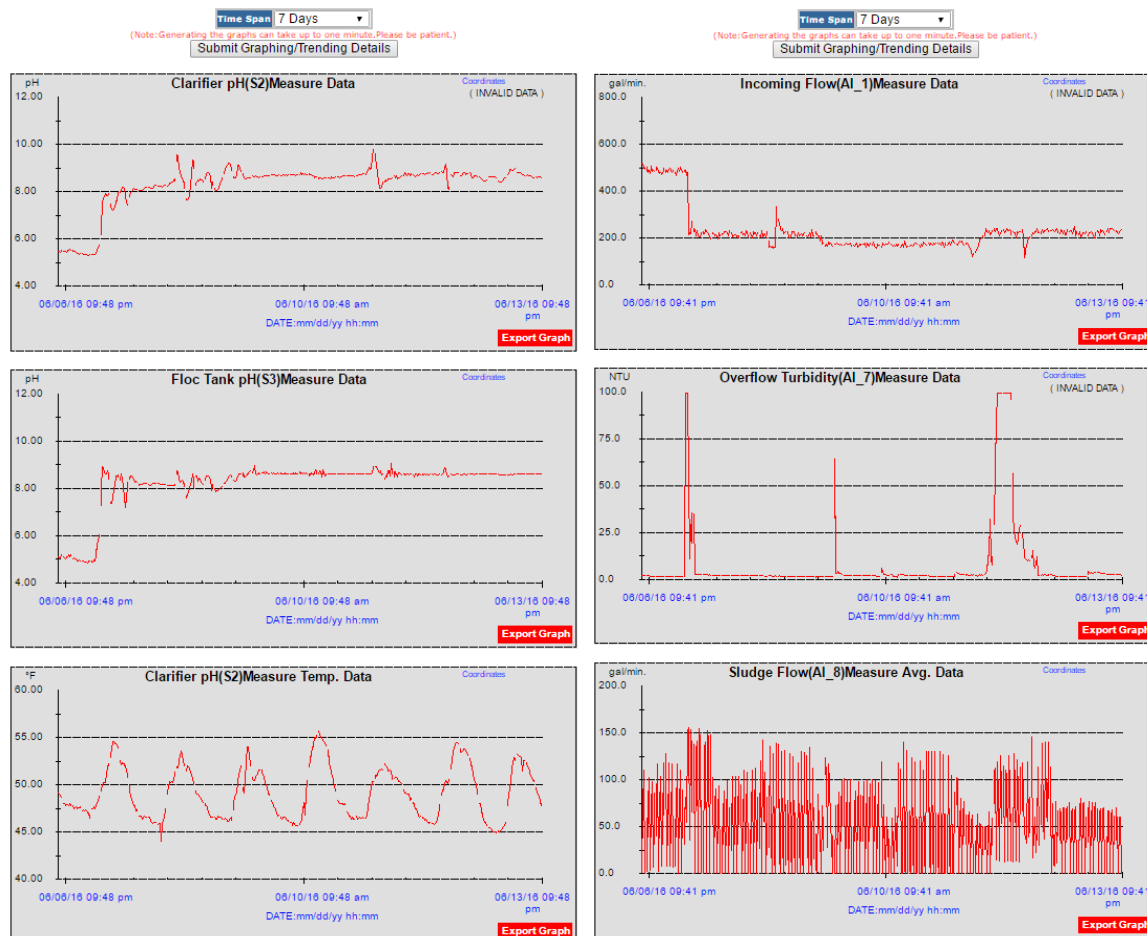
Report No.: 24

Prepared for: Emergency Response Unit – US EPA Region 8

I. General Operations Summary:

IWTS Function/Upsets

- The following graphs provide trending information during the previous 7 days. The dataloggers collect control information from the Lime Circuit (left) and Flow Circuit (right) Programmable Logic Controllers (PLCs) at the Gold King IWTP. Over the reporting period (6/6/16 – 6/13/16 inclusive) Alexco treated 4.77 million gallons at an average flow rate of 473 gpm with all discharged treated water leaving the 12" HDPE pipeline.



- Please note: Several days each week, the Alexco operators check the pH at both the floc tank and clarifier discharge. During this time, the probe is placed in vinegar (acid), and three pH buffers – 4, 7, and 10. While the probe is in the acid/buffer, the datalogger may capture one of those points for tracking purposes, which explains the occasional pH spikes seen on the graph. In addition, instantaneous spikes of the Overflow Turbidity Meter are associated with routine cleaning, which can cause the meter to spike temporarily up to 100 NTUs.
- Over the last few weeks, TSS levels coming into the IWTP have increased, causing occasional spikes at the discharge as measured by the turbidimeter and requiring higher flow rates to the bags and occasional flushing of the clarifier. This can be seen on the Overflow Turbidimeter readings for 6/7 and 6/12.
- Since early May, lime consumption has drastically increased. Lower pH levels coming into the IWTP were confirmed on 6/8 when Alexco measured the pH coming into Pond 1 at 1.8. Soon after, Alexco installed a third peristaltic pump at the lime slurry tank to support the additional requirement of lime slurry at the Reactor Tank.
- On 6/7/16, Alexco started operating the second clarifier.

Communication System Function Status

- No issues – reliable operations during the reporting period.

Facility or System Related Work, including Repairs & Completions

- Per the recommendations of Linkan Engineering, Alexco switched to Drewfloc 2499 which is a cationic polymer. This polymer is currently batched in the 4k polymer tank between 0.25% - 1% and dosed into the treatment system at both the floc tank and at the sludge manifold. Test work showed that dosing at the clarifier's discharge (conditioning the sludge) improved the dewatering performance at the bags.

II. Identified Problems, Causes, and Solutions (Planned or Implemented)

- **Spring Melt Contingency Updates:**
 - **Additional Bags** – Alexco has additional textile bags (two 125' x 45 and three 45' x 22.5') located at site that can be installed and connected to the sludge manifold as needed.
 - **Sludge Removal from Upper Ponds** – ER has completed the sludge removal from Pond 1 and Pond 2 with the support of Badger.
 - **Removal of sludge from bags** – Starting on 6/13, ER began removing sludge from Cell A with the support of an excavator and haul truck.

III. System Inspections – Specific elements inspected and finding

- N/A

IV. Site Status

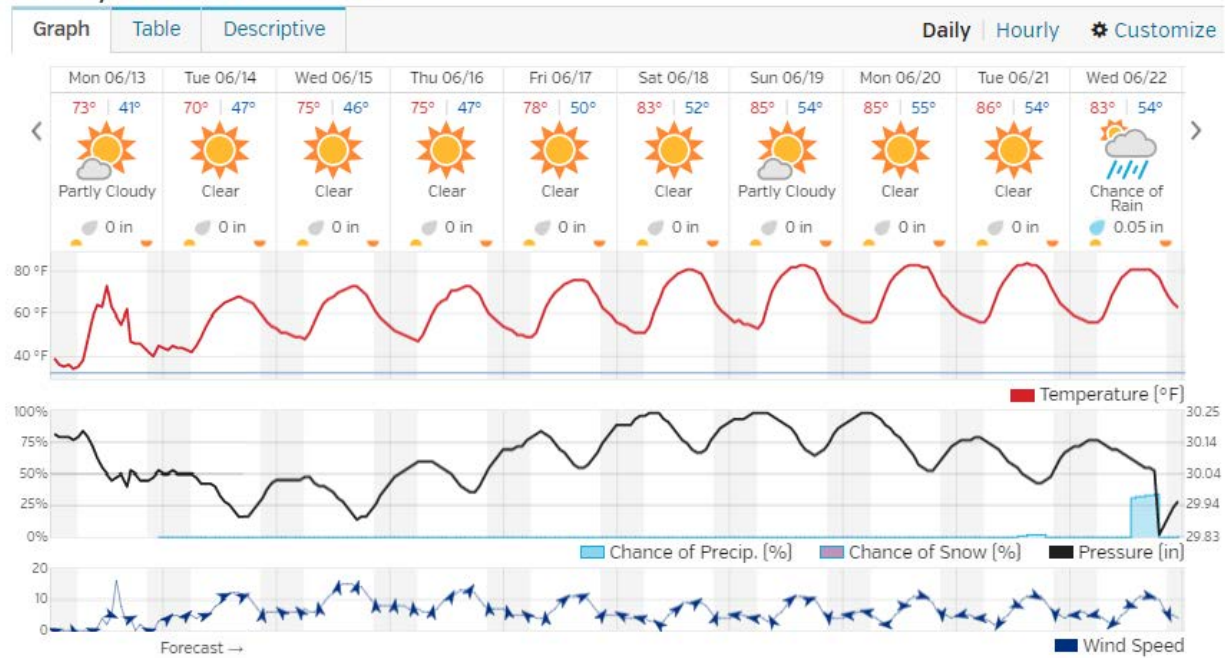
Personnel and equipment onsite

- Alexco currently employs one full-time employee (FTE) who lives in Silverton and oversees all operations at the Gold King IWTP. He is supported by remote operators in Denver, and local sub-contractors as needed.

Weather conditions

- Weather Underground Report for Silverton, CO (6/13/2016 – 6/22/2016)

10-Day Weather Forecast



Pictures from Site



Photo 1: Bag in Cells C and D were stacked – Taken on 6/13/2016



Photo 2: Removal of bags from Cell A – Taken on 6/13/2016



Photo 3: Pond 2 after sludge removal – Taken on 6/13/2016